

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 10-152676

(43)Date of publication of application : 09.06.1998

(51)Int.CI. C09K 11/06

(21)Application number : 08-313289

(71)Applicant : TOYO INK MFG CO LTD

(22)Date of filing : 25.11.1996

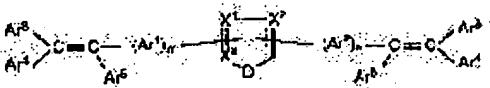
(72)Inventor : OKUTSU SATOSHI
ONIKUBO SHIYUNICHI
TAMANO MICHIKO
ENOKIDA TOSHIO

(54) ORGANIC ELECTROLUMINESCENCE ELEMENT MATERIAL AND ORGANIC ELECTROLUMINESCENCE ELEMENT USING THE SAME

(57)Abstract:

PROBLEM TO BE SOLVED: To achieve high luminescence efficiency, by incorporating a compound containing a five-membered heterocyclic ring into at least one layer of an organic electroluminescence element which is composed of a plurality of organic compound thin layers, including a luminescent layer, placed between a pair of electrodes.

SOLUTION: N,N'-(3-methylphenyl)-N,N'-diphenyl-1,1-biphenyl4,4-diamine is deposited by vacuum deposition on a glass plate with an ITO electrode, to thereby form a positive hole injection layer having a film thickness of about 20nm. On the layer, a compound containing a 5-membered heterocyclic ring represented by the formula:
 wherein each of X1 to X3 represents N, CH or a carbon atom bonded to Ar1 or Ar2, each of Ar1 and Ar2 is an arylene group, each of Ar3 to Ar5 is H, a cyano group or the like and each of m and n is 0 to 4, is laminated by vapor deposition, to thereby form a luminescent layer having a thickness of about 40nm. Then, tris (8-hydroxyquinoline)aluminum complex is laminated by vapor deposition to thereby form an electron injection layer, having a thickness of about 30nm. Further, on the organic layers, an electrode of Mg/Ag alloy is formed with a thickness of about 100nm. An organic electroluminescence element is thus obtained.



LEGAL STATUS

[Date of request for examination] 04.07.2003

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]